CITY OF NEWARK
DELAWARE

PLANNING COMMISSION
GREEN BUILDING CODE WORK GROUP
MEETING MINUTES

May 21, 2019

3:30 p.m.

Present at the 3:30 p.m. meeting:

Chairman:	Will Hurd
Members Present:	Jeremy Firestone Rob Jadick Tim Poole Reid Rowlands
Members Absent:	George Irvine Stacy McNatt Ben Prettyman Vacancy (Conservation Advisory Commission)
Staff Present:	Mary Ellen Gray, Planning and Development Director Nicholas Lewis, Planning and Development Intern

Mr. Will Hurd called the Green Building Code Work Group meeting to order at 3:31 p.m.

1. **INTRODUCTIONS**

Mr. Will Hurd: Alright, I'm opening the meeting of the Green Building Code Work Group at 3:31 and we'll go around the table and introduce ourselves so that Michelle has a name to put with the voice. I am Will Hurd, Planning Commissioner and Chair.

Mr. Jeremy Firestone: Jeremy Firestone, Professor at University of Delaware.

Mr. Nicholas Lewis: Nicholas Lewis, Planning Intern.

Ms. Mary Ellen Gray: Planning and Development Director for the City of Newark.

Mr. Tim Poole: Tim Poole, Code Enforcement Officer, City of Newark.

Mr. Rob Jadick: Rob Jadick, Project Executive, Bancroft Construction.

Mr. Reid Rowlands: Reid Rowlands, World Class Supply.

2. **CHAIR'S REMARKS**

Mr. Hurd: Alright. For Chair's remarks, all I'm going to sort of say is the intent for today, and this was really my intent and goal, is to finish off the edits to the criteria and such for the remaining items and to get points nailed down for the commercial checklist. There will probably still be ongoing conversations about minimum number, total number, percentages of that, how much space do we want to give people within the checklist to pick from the list, and do we want to have many more points than we're asking for so that they can go even higher for site plan development, because that's a concern of mine, and I think we have not reached a

consensus on that issue. So, I know it's out there and I don't know that we're going to solve it today but . . .

Mr. Rowlands: May I make a comment?

Mr. Hurd: Absolutely.

Mr. Rowlands: I had thought about, as an exercise, it doesn't even have to be a specific building, just say we're going to build a building, and we're the design charrette building that building and we have to go through this, let's go through it and pick which ones we're going to do. Just as an exercise to figure out maybe how many points we really should have or shouldn't have. I don't think it takes a whole lot of time. Just something to, okay, we've got this commercial building in downtown Newark with students upstairs and retail down . . .

Mr. Hurd: Right.

Mr. Rowlands: What can we make work?

Mr. Hurd: I think that would be a great thing once we've . . .

Mr. Rowlands: Yeah, yeah.

Mr. Hurd: Went through this and we got it tightened it up a little bit, that's probably a good level to do because then we'll have a better sense, too, of have we, because I think this comes out in some of our conversations and it's hard when we're down in it, have we created sometimes points that are in conflict with each other or groups of points where they're more likely to do this than that. Or, if they're doing this, they're not going to do that. Or, you know, they're not going to spend all this money, so that may help us figure out what's a reasonable number of points to ask for within a category after sort of running through with that exercise.

Mr. Rowlands: Yeah.

Mr. Hurd: Okay, good thought.

3. **MINUTES OF THE MARCH 26, 2019 GREEN BUILDING CODE WORK GROUP MEETING**

Mr. Hurd: Alright, housekeeping. We need to approve the minutes from the March meeting, which were emailed to everyone. We do not have copies here.

Ms. Gray: Didn't you say they were emailed to everybody?

Mr. Hurd: They were emailed, yes.

Mr. Poole: They were emailed to everybody in April.

Mr. Jadick: All 48 pages.

Mr. Hurd: Yeah.

Mr. Poole: I'll make a motion to approve the minutes.

Mr. Hurd: Alright, I have a motion to approve.

Mr. Firestone: Second.

Mr. Hurd: I have a second also. Any objection? No? Great, covered. Moving along.

MOTION BY POOLE, SECOND BY FIRESTONE, THAT THE MINUTES OF THE MARCH 26, 2019 GREEN BUILDING CODE WORK GROUP MEETING BE APPROVED. MINUTES ARE APPROVED BY ACCLAMATION.

4. **ASSIGNMENT OF POINTS AND REVIEWING CRITERIA FOR COMMERCIAL PROJECTS**

Mr. Hurd: Okay, let us quickly catch ourselves up to where we left off with reviewing the changes that I had put into the document and then Tim had cleaned up just for people to remember. The last time we did this, we had covered the renewable energy category. So . . .

Mr. Rowlands: Can you refresh my memory on the color code?

Mr. Hurd: So, the color code, the yellow are things that changed from the last version that we went through. So, for example, on page 1, we've added an item on thermal bridging, taking a lot of language from the New Building Institute's 20% energy reduction model code stuff. And what it breaks down to is that basically they're saying anything that's going to be, that has a direct, uninsulated path to the exterior and exceeds 1% of the area of the component gets included into the assembly calculations for the U-value that we're aiming for. So, you can't ignore, basically, over 1% of area, you have to include it as a calculated thing so that it's going to affect your assembly's performance, which means you're going to have to increase your insulation or, you know, do whatever you have to do to get . . .

Mr. Rowlands: And where did the 1% come from?

Mr. Hurd: That's from their language. This is straight out of the New Building Institute's model code.

Mr. Rowlands: I have to think about 1%. I may be right, or I may like it, or I may not.

Mr. Hurd: Yeah, well there is an exemption, metal and wood framing members, so joists and studs, are not considered discrete structural elements in this context. So, you don't calculate the stud area for a stud wall, but you do if you've got a penetrating beam or something else.

Mr. Poole: A cantilevered joist.

Mr. Hurd: A cantilevered joist. So, it does curtail it slightly with that reduction. So, things like floor-to-wall interfaces, wall-to-wall corners, and floor and slab edges, projecting balconies, we know that that's going to be an issue, especially if they do a concrete slab projecting thing. We know that that's a big heat loss. So, I put that in there and I gave it 3 points. Conversation, discussion, thoughts?

Mr. Rowlands: I'll have more thoughts next time.

Mr. Hurd: There's no next time. It's now.

Mr. Rowlands: So, alright then, so what is this actually saying? You want the whole wall U-value but you're eliminating the studs as part of that calculation?

Mr. Hurd: Yeah, because they're saying . . .

Mr. Rowlands: So, you're just telling them an R19 batted cavity is continuous and we don't care about studs being a thermal bridge.

Mr. Hurd: Well, if they're using ASHRAE 90.1, I'm reading the sum of the text here, the framing elements are included as part of the calculations for . . .

Mr. Jadick: Yeah, they're accounted for elsewhere.

Mr. Hurd: Elsewhere.

Mr. Rowlands: Right. Okay.

Mr. Hurd: So, it's not like we're ignoring them completely. It's that they're accommodated for in performance, in another way. This is more about, I think, discrete elements that penetrate the envelope that aren't insulated.

Mr. Rowlands: Okay, and so that 1% I have to think about. I mean we don't want to calculate nails or things like that.

Mr. Hurd: No.

Mr. Rowlands: We want something that's worth being calculated.

Mr. Hurd: Well, they had a thing in there about mechanical fasteners and I pulled that because I thought that was getting to be a little too much.

Mr. Rowlands: Well, the 1% would kick those out.

Mr. Hurd: Yeah.

Mr. Rowlands: But you could still stick a steel I-beam out there and be less than 1%.

Mr. Hurd: Yeah, if you just do one.

Mr. Rowlands: You could do a couple of them and still probably be less than 1% of that opaque wall.

Mr. Hurd: So, that's that. Are we ready to move on or do you want to think on this a little and come back to it?

Mr. Rowlands: I don't like steel, structural steel penetrations.

Ms. Gray: You don't, or you do?

Mr. Rowlands: I don't. They should be thermally broken. Whether or not 1% is correct, the surface area of an I-beam poking a wall is not much. You could poke quite a few of them, probably, and still be less than 1%. And that thermal transfer could be huge. You know, if they have a building, whatever, 200 feet long, 20 feet tall and 15-20 penetrations . . .

Mr. Poole: Maybe look at the surface area of the component.

Mr. Rowlands: It's an I-beam though.

Mr. Poole: Yes, but it has sides.

Mr. Hurd: So, you're saying the total area?

Mr. Rowlands: Yeah, but that's not where the, you could stick it out 50 feet would count more than sticking it out 10 feet?

Mr. Poole: Yes.

Mr. Rowlands: I don't think that matters though. It's right at that thermal wall where the leakage is.

Mr. Poole: Heat and cold transfer of surface area matters.

Mr. Hurd: I'll make a note of that and maybe we're going to come back to that. The next edit was about windows. We had changed this from 2 points to 3 points. I did doublecheck and you can get windows that meet that performance criteria currently. I mean I was looking at the Anderson 100 Series. As soon as you go to a [inaudible] performance glazing, you can get this U-factor, so you're not looking at specialty windows with these criteria.

Mr. Rowlands: You have this worded U-factor equals . . .

Mr. Hurd: It should be and less than.

Mr. Rowlands: Equal or less than.

Mr. Hurd: Yeah.

Mr. Rowlands: And solar heat gain . . .

Mr. Poole: Or maximum U-factor.

Mr. Hurd: I thought I had done that in one of my edits but maybe that didn't make it through.

Mr. Rowlands: But, in addition to that, there are times when we want a high solar heat gain. I would maybe drop solar heat gain and just use the U-value.

Mr. Hurd: Well, solar heat gain is also going to show up just as a baseline in the IECC.

Mr. Rowlands: I know, and we have to fight that sometimes. I mean on the extreme, if you have external shading, you want as much solar heat gain in that winter as you can get and then you shade it.

Mr. Hurd: Well, we can talk about how to get the, there's some language here about weighted average to get that, pull that into the criteria so that you could get some that are higher and some that are lower.

Mr. Rowlands: Yeah, but I don't know that solar heat gain is going to cost more or less if they start specifying a higher or lower. If they get to that point where they want to because they've done some analysis, we should allow it. U-value, absolutely, and maybe air penetration, which are all, and I'm not an expert on how much that number should be, but they're all listed on those charts.

Mr. Hurd: Right.

Mr. Rowlands: So, it would be nice to research, not research but just look at them and see what the better ones are and say, okay, here's your cheap windows that have an air penetration rate of this and you want something a little better.

Mr. Hurd: Keep in mind, we're also still talking commercial here and not residential.

Mr. Rowlands: I don't care what we're talking about, but yes.

Mr. Hurd: Partly because commercial tends to be heating dominated, or cooling dominated I should say, so . . .

Mr. Rowlands: That doesn't mean we want air penetrating . . .

Mr. Hurd: I know but you're less likely to be wanting to have a heat gaining window in that commercial application than you would be, say, in a residential where you might have some solar stuff.

Mr. Rowlands: Yeah, but that should be up to the architect to decide, I think. I just didn't want to limit it and say I've got to meet that solar heat gain.

Mr. Hurd: Yeah.

Mr. Jadick: You didn't make a change in the criteria description from our last meeting, right? You only changed the points.

Mr. Hurd: I only changed the points.

Ms. Gray: I have a question. Sorry for my ignorance.

Mr. Hurd: No, that's fine. There's going to be a lot of that.

Ms. Gray: What's a U-factor?

Mr. Hurd: U-factor is the inverse of R, so . . .

Ms. Gray: Oh, that's illuminating.

Mr. Hurd: So, your R-value is your insulation value. It's the resistance to heat transfer.

Ms. Gray: Okay.

Mr. Hurd: The U-value is the inverse of it and they use that sometimes because, one, you can add it and manipulate them more effectively when they, I'm going way back to school for this, it's my recollection that when you invert them, you can add them up and sum up and create, understand the assembly better because a U-factor is basically a measure of the heat flow as opposed to the resistance to flow.

Ms. Gray: Okay.

Mr. Hurd: So, in that case, a higher, a lower U, no wait, a lower U-value is better because it's a slower heat flow. It always takes me a moment to work that out.

Ms. Gray: Okay, so it's like air-conditioning when you turn it up or turn it down, what are you doing? Making it cooler or hotter.

Mr. Hurd: So, this is, we're talking only about the envelopes of the building where the heat, the interior and exterior heat overflows, flows between the inside and outside of the building. So, if you have a wall that's very well insulated, it has a very low U-factor because very little heat moves from the inside to the outside.

Ms. Gray: And that's good. That's what you want.

Mr. Hurd: That's what you want.

Ms. Gray: Got it.

Mr. Hurd: But as I said, the math for understanding an assembly works better using U-factors than it does using R-value, because R-value there's some other factor . . .

Ms. Gray: Thank you.

Mr. Hurd: You're welcome. Our hope is that people who are reading this will know what we're talking about.

Mr. Firestone: Or they'll get consultants.

Mr. Hurd: Or they'll get a consultant. But I am trying to do things like in the language say maximum of 0.3 so people understand that we're coming up to that number. You know, minimum for the solar heat gain because that's, again, solar heat gain coefficient is how much of the sun's energy comes through the glass. And so, for that, a lower number is good because less heat is coming through.

Ms. Gray: Thank you.

Mr. Hurd: You're welcome. So that helps educate Michelle, as she reads along.

Ms. Gray: Thank you, Michelle.

Mr. Rowlands: What is the projection factor of 0.5? Is that a ratio of window to . . .?

Mr. Hurd: Yeah, window height to projection.

Mr. Rowlands: So, for every two feet it has to go out a foot?

Mr. Hurd: Yes.

Mr. Rowlands: I mean we're getting technical, but south is one and east and west would be different. Not that it matters.

Mr. Hurd: The next, on page 2 here . . .

Mr. Rowlands: Actually, can we back up one? We're going to go slow today. I'm sorry.

Mr. Hurd: Okay.

Mr. Rowlands: You've got 2 points for a fixed and an automatically controlled is only 1?

Mr. Hurd: Reid, these are things we covered the last time. I really don't want to have to revisits all the points that we've covered.

Mr. Rowlands: I'm sorry, I'm questioning this. Why are you getting more points for just a fixed as opposed to a mechanically or automatically controlled? I think it should be the other way.

Mr. Hurd: Because automatically controlled shades are on the interior.

Mr. Poole: A fixed shade is a shaded roofed type area over the window . . .

Mr. Rowlands: Yeah.

Mr. Poole: As opposed to interior . . .

Mr. Hurd: Interior shades, you know, aren't as effective.

Mr. Poole: And they're not as durable.

Mr. Rowlands: No. But it doesn't say interior. You can add exterior.

Mr. Hurd: I'll add that note.

Mr. Rowlands: Okay. I'm thinking of the guy at the end that has to understand this when he's picking points.

Mr. Hurd: Yep. Page 2, all I did here was clarify the language so that you can kind of look at it and go, a flat roof at a U-factor of 0.029 is approximately an R34.5. Just to help people kind of

mentally see, oh, a roof, they're looking for this kind of roof. So that's all I had done in there. There's no change to the actual requirements.

I will note that under the air leakage, we had a conversation about if 75 pascals or 50 pascals was the right number and if we wanted to have an air change number as opposed to a calculated rate. And I think you had some thoughts on that, Reid.

Mr. Rowlands: I think the 50 pascals is more common. Is 75 more government or military uses?

Mr. Poole: I think it was just the language that was in the Green Construction Code. But, yes, currently in residential applications, the building envelope tightness is measure at 50.

Mr. Rowlands: Right.

Ms. Gray: What was that?

Mr. Poole: Building envelope tightness.

Ms. Gray: Got it.

Mr. Poole: The amount of air leakage out of the building.

Mr. Hurd: So, you test air leakage by basically pressuring the house. You put the blower door in and you shove air in, and then you're measuring how much energy it takes to hold the building at that pressure, which tells you how quickly you're losing air. For residential, at least, you convert that number into an air change number and current 2018 code . . .

Mr. Poole: Is three air changes per hour.

Mr. Hurd: Is three air changes per hour. That's for residential. Commercial, if there's a standard, I don't know what it is in terms of air changes. So, this is looking at it as a rate which is kind of what the air change, the air change kind of simplifies that rate but it sort of removes some of it too. From your experience, Reid, does it make sense, can they measure . . .

Mr. Rowlands: Yes, they can measure that.

Mr. Hurd: Then I'm okay leaving to say it's 0.4 cubic feet per minutes per square foot. I added commissioning and I gave it 3 points because we seem to be coming around to that being an important piece of the process. For boilers, I took out gas or oil because that's pretty much all you have is gas or oil, so I just said boilers. And we bumped the points on that one, too.

Mr. Poole: Yes. It was 3 . . .

Mr. Hurd: It was 3 and we've gone to 5, again, with that being a big piece of equipment. And then I added language on occupancy sensors for mechanical equipment and zones, and then tried to clarify the language around the guest room controls. Because I think we talked around that and I think there was some, I won't say misunderstanding, but I think there was some uncertainties on what the intention was.

Mr. Firestone: This is more of a general comment. We've got some different language to describe requirements. So, we have some that we say they shall but most of them don't use the word shall.

Mr. Hurd: Okay.

Mr. Firestone: Presumably, they're all mandatory . . .

Mr. Hurd: Right.

Mr. Firestone: And treated the same. Anyway, we just need to, as we're moving forward, we need to have consistency in language.

Mr. Hurd: There will be a language clean-up once we get kind of, my goal here really is getting the intention, make sure that we have items, credits that are doing what we intend, that we have some understanding of the criteria, that it's tied to something realistic and relevant, and then we can clean up the language around those and such.

Mr. Poole: Sorry, it's me. It's all code language.

Mr. Hurd: We'll give it a shot.

Ms. Gray: We don't like the may word.

Mr. Hurd: So, that was one . . .

Mr. Firestone: So, we're assuming none of them are going to have electric heat?

Mr. Poole: Hopefully there's electric heat elsewhere.

Mr. Hurd: So, if you're, okay, I'm getting a feeling, Tim, that you didn't get entirely all of my copies because, or maybe I made changes that didn't stick.

Mr. Poole: Well, that's why I printed out your copy here, so that in case I missed stuff because it's certainly possible.

Mr. Hurd: For things like the efficient HVAC equipment checklist, the Green Building Code, and I didn't send it to Michelle to print out, but they have an entire appendix that is equipment efficiency tables. So, you know, size of equipment and fuel, and so there's no way I'm going to put that whole chunk in here.

Mr. Firestone: Right, but we've got 5 points for boilers and nothing for putting in an efficient electric system.

Mr. Jadick: We don't put in electric systems.

Mr. Poole: You get 3 points for that under efficient HVAC equipment. That's in the tables.

Mr. Firestone: Yeah, that's on the A/C side. On the cooling side. But I'm talking about on the heating side.

Mr. Poole: HVAC is heating, ventilation and . . .

Mr. Hurd: Air-conditioning.

Mr. Poole: Cooling.

Mr. Hurd: And actually, what I need to do, now that we've just brought that up because I was just thinking about it, we have a separate item on boilers, then we have one on HVAC equipment efficiency, which means we may be double-dipping those points for boilers. So, I guess the question is, do we just say 5 points for efficient HVAC equipment that meets the criteria and we . . .

Mr. Poole: Let's take a look at the Green Building Code and see what their minimum on the boilers are because I'll bet it's not 94.5%.

Mr. Hurd: Okay.

Mr. Poole: I'll bet that it's significantly lower.

Mr. Hurd: Alright. So, we'll have to come back to that one. And it may be that we just want to pick a few pieces of equipment and just say these needs to be in the, because having not committed that to memory, I don't know how deep into the equipment list they get and how, I know they . . .

Mr. Poole: They pretty much, whatever type you have, it's on the list. It's just what the efficiency rating is.

Mr. Hurd: Okay. So, there may be a way to fold that into that criteria.

Mr. Poole: Boilers and cooling towers typically provide a lot higher BTUs than most of your forced air stuff. So, you're probably a lot more likely to gain efficiency if those are significantly higher.

Mr. Hurd: Right. Alright, so then we have occupancy controls. We have one criteria for occupancy sensors and zoning so that you can reduce the set point in unused areas, and then a separate one that's really just for hotel rooms that allows you to individually shut down each room as it's occupied or not occupied.

Page 3, water supply lengths. So, here's where we've got some issues. I was working from the New Building Institute's model code which was referencing the 2015 IECC. I had forgotten at the moment that we're looking at the 2018 in the City, so what I need to do is check to see if these lengths still correspond or whether the 2018 has made any changes to that. But this brings up a more general question as Tim and I were going through the items which is, when we've got our criteria where the criteria is basically comply with the IECC, is that actually something we want to be giving them a point for?

Mr. Poole: No, because that's going to be mandatory that they meet that requirement anyway. So, anything that we give them points for should be above and beyond.

Mr. Hurd: That's where I was starting to lean. The only thing I need to doublecheck is to see if there is occasionally, I think this came out when I was looking through the lighting power load kind of stuff, there's a prescriptive path and there's a performance path. So, in some cases they may not go down that particular path because they've chosen a different one. So, is that an opportunity to say I don't care which path you go down, you still have to comply, and we want you to meet this one.

Mr. Rowlands: Well, they have to meet the 2018 with whatever those . . .

Mr. Hurd: Right.

Mr. Poole: I anticipate that by the time this goes before Council, we will have already adopted the 2018.

Mr. Hurd: Okay.

Mr. Rowlands: That's the state, not necessarily the City?

Mr. Poole: Well, the City is more likely to get through it than the state. The state has some issues.

Mr. Hurd: The state, I know, is working on it.

Mr. Poole: The state is going to start workshops very soon on the unamended 2018 IECC and they have a lot of opposition coming from the Homebuilder's Association.

Ms. Gray: Is that a DNREC group? Who manages that?

Mr. Poole: DNREC, yes.

Mr. Hurd: Yes.

Ms. Gray: Because there's the Delaware Code Officials Association, but they're not the . . .

Mr. Poole: No, it's the Delaware Energy Code Coalition is the group that . . .

Ms. Gray: That does the energy code.

Mr. Poole: Yes. That works with DNREC's air and climate . . .

Ms. Gray: Oh, so it comes out of that shop. That's fine. Thank you.

Mr. Rowlands: There is a performance path in Passive House that is not necessarily passive but energy. You turn the furthest spigot on and it has to be X temperature within X amount of seconds or minutes or whatever it is. So, it's easily . . .

Mr. Hurd: Right, easily tested.

Mr. Rowlands: Yeah.

Mr. Hurd: And I think that's clearly what they're trying to get to but in a way that you can measure it off a plan or something and say . . .

Mr. Rowlands: If they have to meet that in 2015 or 2018, they don't get a point for it, but if they take the performance path, we could make it whatever we want it to be.

Mr. Poole: So, we'll have to take a look at this and see if there's a way to add, or to make it more stringent than what Code requires that makes sense.

Mr. Hurd: Right.

Mr. Rowlands: Yeah, you could shorten them by 10% or something.

Mr. Hurd: Yeah, well sometimes it's already pretty short. It's like half a foot for anything over . . .

Mr. Rowlands: Yeah, right.

Mr. Hurd: It's like, that's pretty short. So, this may become something that we drop out because Code is kind of covering this.

Mr. Poole: It's not like we don't have plenty of energy areas to get energy savings from.

Mr. Hurd: Absolutely. So, ditto on energy efficient lighting controls because the language I had found in there was basically occupancy controls installed per the IECC. So, that one is out. The lighting power allowance, this is where I think we're starting to do this. The model code had a table of power allowances for different areas of the building and I was looking at it and the IECC, and I realized that what they're really doing is they're looking for a 10% improvement. So, that's the language I ended up pulling in here to just say you look in the Code and if it says warehouses are 0.4 or whatever, you've got to be 10% better, so 0.36. That's your number.

Mr. Rowlands: Right. So, you're using 2015 quite a bit here and it's because it's already been adopted?

Mr. Hurd: No, because that was what was being referenced in the Code that I was stealing language from.

Mr. Rowlands: So, everything should be 2018.

Mr. Hurd: We want to move everything up to 2018.

Mr. Rowlands: Just a 2018 blanket.

Mr. Poole: And actually, I think we should probably go, if we're going to do things, go 10% better than current Code. That way when the Code gets updated . . .

Mr. Rowlands: Yeah, yeah, yeah. We don't have to come back.

Mr. Poole: We don't have to come back necessarily with this.

Mr. Rowlands: So, now it's a matter of let's say 2018 gets put in here and/or whatever is current, but what is current? If 2018, let's say it doesn't get adopted and we stick with 2015, we could still have 2018 . . .

Mr. Poole: Well, we're . . .

Mr. Hurd: We're on 2012 now.

Mr. Poole: We're on 2012 and we'll have to adopt the 2018 code.

Mr. Rowlands: Why?

Mr. Poole: Because the state is going to adopt it.

Mr. Rowland: Right. If they do then we do, I understand that.

Mr. Firestone: We could write it in a way that for the baseline that we're using the 2018 and then if the City adopts more stringent, it's always 10% better than . . .

Mr. Poole: Than Code. Like I said, I think we just put in there, not as a base, just 10% better than Code required.

Mr. Jadick: I think that probably helps it maintain evergreen better than anything.

Mr. Rowlands: But you almost don't need a year. Just current IEC Code, 10% better.

Mr. Poole: Right.

Mr. Hurd: Right. I think that that's, I want to make sure that we say IECC so that people know which code we're talking about in case there's any . . .

Mr. Rowlands: But drop the years altogether and just put current.

Mr. Hurd: Yeah. Currently adopted . . .

Mr. Rowlands: Well, careful with currently adopted. Well, the state didn't adopt it so we're not using it. Let's just think for the future. If we don't adopt it for some reason.

Mr. Poole: We're the [inaudible], this is the code we adopt.

Mr. Rowlands: Yeah, I know.

Mr. Hurd: I think Rob and I know what adopted code means. It's like your code. So, I'm not going to come in and say, well, Wilmington adopted this.

Mr. Poole: Well, you know what, pick this building up and take it to Wilmington.

Mr. Jadick: That's the last thing you want to say.

Mr. Poole: The response you'll get is as soon as you want to take this building and move it to Wilmington, then you can comply with their code.

Mr. Jadick: He's practiced that, I see.

Mr. Poole: It wouldn't be the first time.

Mr. Hurd: Alright, so that's partly why these are in red is because they're referencing . . .

Mr. Poole: They're referencing the 2015 and we're working on adopting the 2018.

Mr. Hurd: What I'm going to have to spend a few minutes to think about is for things like daylight responsive controls, it's referring to a particular section and I'm trying to decide, based on this conversation, if I still maintain that section reference or if I just say, per the code and let them dig into it and figure out where it is.

Mr. Poole: Yeah.

Mr. Hurd: Okay.

Mr. Poole: Because the code sections sometimes change a couple of digits.

Mr. Hurd: They do, because they'll add something and suddenly it's 2.4.

Mr. Poole: Suddenly Section 403 is now 405 or 401.

Mr. Hurd: Yeah, and everything goes nuts. Alright, so in this case, the interior power line is still looking for a 10% improvement, and for the exterior, based on the table, they're looking for a 30% improvement.

Mr. Poole: That basically [inaudible].

Mr. Hurd: Yeah, you just push everything up. And then Page 4, what I did here is I expanded the language on occupancy controls for outlets, which is good because I realize when I ran into it because really, it's talking about outlets in rooms with equipment that is really affected by occupancy. So, it's not like we're going to shut down the open office space. We're going to ask them to shut down a conference room, so that kind of level of, if the conference room is not occupied, all the outlets get turned off and if you've got a printer in there it's off. You come in and everything turns back on.

Mr. Rowlands: But in only 50% of the buildings?

Mr. Hurd: Yeah, no 50% of the outlets in these spaces.

Mr. Rowlands: Oh, I see. Okay. Of all outlets and receptacles in, okay.

Mr. Hurd: Conference rooms, printed copy room, break rooms, class rooms, and individual workstations. So, it's a small subset of the building, which is reasonable when you look at it that way. You don't want to say half that building needs to be on occupancy controls.

Mr. Poole: Meanwhile, somebody is going to plug their device in to charge overnight and say we didn't charge last night.

Mr. Hurd: Which is also why there is language here that's says the controlled receptacles have to be clearly labeled and they have to be close to an uncontrolled receptacle, so you have a choice.

Mr. Rowlands: Right.

Mr. Hurd: Because you don't want to be getting into that.

Mr. Poole: We reduced the points on the commercial kitchen equipment.

Mr. Hurd: Yes, we did. We did?

Mr. Poole: Yes, we did. It was 3 and now it's 2.

Mr. Hurd: Yes.

Mr. Firestone: It seems like it's still too high.

Mr. Hurd: Why?

Mr. Firestone: Because presumably most of the equipment out there is all EnergyStar.

Mr. Hurd: Except this is not including things like grills, ovens, well grills and ovens are two big ones. This is like fryers, dishwashers, these are the only things that seem to be identified as being available as EnergyStar rated. Any other equipment in the kitchen is not going to be EnergyStar rated.

Mr. Firestone: My thought was just that, I mean, how many dishwashers out there are not EnergyStar?

Mr. Poole: Residential or commercial?

Mr. Firestone: What?

Mr. Poole: Residential or commercial?

Mr. Firestone: Residential.

Mr. Poole: This is commercial.

Mr. Firestone: So, you're saying on the commercial side, there's . . .

Mr. Poole: On the commercial side, the likelihood of it being EnergyStar compliant is probably hovering around 20%. As to residential, it's probably closer to 90%.

Mr. Firestone: Then I'm good with it.

Mr. Hurd: And having worked on a few things, some people will be looking to buy used equipment to start up and so that's less likely to be rated. So, this is really a push to say if you're going to buy it, you're going to have to buy a new thing to get this point.

Alright, renewable energy. So, Tim flagged and I have, just because I'm just picking a direction on preparing buildings for future renewable energy, to make that item required. I know we have talked pro and con since almost the beginning of this work group about this topic. So, I'm going to put this out there and we can talk a little more about it now or we can talk a little more

about it later. The Planning Commission is going to see it. The Council is going to see it. So, I'm just drawing that line and saying at this point let's just say that it's required to provide basically the conduit to the roof and structure that can support it.

Mr. Firestone: I think that's wise and implies that they need to be prepared with 240 volts and if they don't put in the chargers now, they're set up to do in the future.

Mr. Hurd: That's right, we did talk about that.

Mr. Firestone: Just like now, all apartment buildings are starting to, you know, they're not everywhere, but at least in the . . .

Mr. Poole: My concern with that is that we're going to have one required component in this whole amendment.

Mr. Hurd: So far. This might open up the floodgates. I doubt it but . . .

Mr. Firestone: It's just sort of, you know, it's preparing for the future even if you're not willing to make the commitment now. Because it's going to be much easier to retrofit these things.

Mr. Hurd: Right, and that was part of my logic. This was one of the few things that, if done at construction time, saves hassle and time and money down the road. There isn't a whole lot else down here that really is at that same level. Because equipment is going to come and go. Fixtures are going to change. But roof structure and a path from wherever you put the electrical tie-in and where all that is and the roof, that path is only open that one time. So, that is why I was leaning that way.

Mr. Rowlands: So, it's right now, leave it as the only mandatory or give it a point or take it out, which I don't think is going to happen.

Mr. Hurd: Right, so either we could give it a bunch of points and incentivize or make it required. Which then brings it up in Tim's mind that maybe it moves out of here and moves into the Building Code.

Mr. Poole: I just figured you give them a point. It's really cheap and easy to do and most likely they're going to do that to get that cheap point.

Mr. Rowlands: So, give them a point and make it 51 points they have to get.

Mr. Hurd: I cannot tell if we've ever come to an actual consensus on this or if . . .

Mr. Rowlands: Do you need a consensus now?

Mr. Hurd: I don't know.

Mr. Rowlands: Or can we think about it?

Mr. Hurd: I just wanted to put it out there and go, this one is mandatory and see how people react, and people are sort of reacting the way they've done every other time we've had this conversation.

Mr. Rowlands: Well, I don't like it being the only mandatory thing. That's kind of . . .

Mr. Jadick: Agreed.

Mr. Hurd: Okay.

Mr. Rowlands: But I'd like to think about are there any other mandatory that we might want to include and then it wouldn't be by itself. Or give it a point and call it a day.

Mr. Hurd: And just move on, yeah. I mean the wise person is going to see that as a free point.

Mr. Rowlands: Yeah.

Mr. Hurd: They're going to go, oh well . . .

Mr. Poole: Gee, that $10 pipe works for me.

Mr. Hurd: Yeah, and if they can't see that, then I don't know. Okay.

Mr. Jadick: Yeah, because of that, I don't think it's necessary to go the route of having it be required because it's going to be a lay-up, and everybody is going to do it anyway.

Mr. Hurd: Okay. So, maybe what we'll do it is we'll say you have to get 3 points in renewable energy. You get 1 for the prep for it, you get 2 points for buying renewable energy, and you get 1 point for every 10 kilowatts. So, to get to 3, you have to do something else.

Mr. Firestone: Yeah, and [inaudible] comes with 1 point for 10 kilowatts.

Mr. Hurd: So, I did a little research and I found a report by the NREL on costs of photovoltaic systems and they had a nice little chart. And they showed residential systems that tend to run between 1 and 5, no, I guess between 1 and like 5-8 kilowatts kind of thing. And then all the commercial ones started at 10 kilowatts and went out. There wasn't anything below 10 kilowatts.

Mr. Poole: And I did the exact opposite and came up with the same numbers. I looked at the permits that the City issued for residential solar panels and all the residential solar panels were between 4 and 13 kilowatts. So, 10 is a nice round number.

Mr. Hurd: Again, this is for commercial. For residential, I think we might want to bump it down to 5.

Mr. Poole: But that's basically taking one house off the grid. That's why I came to that number because basically it offsets energy usage for a single-family dwelling.

Mr. Hurd: Yeah, I think in the residential if we're doing this, I would probably say it's 1 point for every 5 kilowatts just because you have a smaller footprint to work with.

Mr. Rowlands: What's the average size on the commercial ones you've seen permitting?

Mr. Poole: I didn't look at that. There are so few of them and most of them are . . .

Mr. Hurd: Huge.

Mr. Poole: Most of them are really doing a lot and, hey, if somebody puts in, you know, 100 kilowatts and they get 10 points, where's the rub?

Mr. Rowlands: Right.

Mr. Hurd: Yeah, absolutely. And I think that what I saw in the NREL it was basically between 10,000 and 100,000 kilowatts was about the commercial systems. So, that's 10 to 100.

Mr. Jadick: Ten to 100.

Mr. Hurd: Yeah, or maybe it was 1,000.

Mr. Firestone: I mean, a megawatt system it depends on what you're . . .

Mr. Rowlands: STAR Campus would be the only one that could do that.

Mr. Firestone: Yeah, it's probably going up to about a megawatt . . .

Mr. Hurd: Okay.

Mr. Firestone: For some buildings. Yeah, but anyway, what that would mean though is that you could get 100, to offset a large building, you could get 100 points.

Mr. Poole: You can only get 30 in, right now, as it's proposed . . .

Mr. Firestone: I understand you can only get 30, but that doesn't give people a large incentive to completely offset.

Mr. Rowlands: And there's a problem with that?

Mr. Firestone: Well, I guess I would like the points system to allow people to get points to completely offset. I mean, the other way to run the points is to do it for a percent reduction or percent of load . . .

Mr. Rowlands: But that's going to take a model.

Mr. Firestone: An estimated load. I guess it's a little more . . .

Mr. Rowlands: That's hard to calculate.

Mr. Firestone: A little harder to calculate but . . .

Mr. Hurd: It's a tough one because if we, by maintaining minimum credits in the different areas, which I think we still want to keep with, they're already locked into, oh, I have to make sure I get my 10 or 15 energy and blah blah blah, so we're kind of sort of saying well here's your first 30 points. And then maybe you can get 10 in the photovoltaic system, but there's really no point, there's going to be a number of it which there's no code checklist point value for going over that number because they're going to max out.

Mr. Poole: Unless we do it on total load as a percentage, then at some point you're going to max out.

Mr. Hurd: And this being a design-based thing, it's going to be harder to calculate projected load on the building.

Mr. Firestone: It's just that to max out without, I mean, if you want to get all your points from renewable by putting on solar and EV and you max out before you even have offset, I just don't know that that's . . .

Mr. Rowlands: So, just put a limit of 5 points max.

Mr. Poole: I was thinking like 10 points max but, you know, I was thinking that one thing we did want to do is not allow them to put all their eggs in that basket and that's one of the reasons.

Mr. Hurd: Yeah.

Mr. Poole: Because do we still want to have them get 20 points somewhere else in energy?

Mr. Firestone: Yeah. I mean, yeah, I would agree with that. My point is really whether the 10 is the appropriate number. I mean that's really the . . .

Mr. Poole: As a maximum or as the 10 kilowatts?

Mr. Firestone: One point per 20 versus, should it be 20 or should it be . . .

Mr. Jadick: Just as a measurable to get the point.

Mr. Firestone: What?

Mr. Jadick: Just as the measurable is what you're questioning.

Mr. Firestone: Yeah, so is 10 too low given what we would expect a typical building to need in order to offset . . .

Mr. Rowlands: I'm not a solar guy but if you have a 10kW system, I mean I have a 5 and I know with the square footage of 10, yeah, that could be an average size or a 20 could be an average size, but if you wanted to do that, just make it a half-point for 10.

Mr. Firestone: Do we know how many kilowatt hours are used by this building in a given year?

Mr. Poole: I do not know that off the top of my head, no.

Mr. Firestone: But that would be like an example. And then you could sort of scale it and say, okay, at 1 point per 10 kilowatts, you'd only offset, and you went up to 10 points, you'd offset one-quarter of . . .

Mr. Hurd: I understand what you're saying. You're trying to understand sort of what's 10 kilowatts percent-wise.

Mr. Rowlands: You could be 10 points and only offsetting 2% of a building. You don't know.

Mr. Jadick: So, it's a lot of points for very little benefit.

Mr. Firestone: I was just trying to, presumably we can get our hands on the figures for this particular building and then we can . . .

Mr. Rowlands: I don't know, they don't pay the bills, so they might not calculate it.

Mr. Poole: This is not the building we want to model.

Mr. Rowlands: Probably not.

Mr. Hurd: No, I was going to say this may not be the one.

Mr. Poole: This building has efficiency issues, let's just go with that.

Mr. Rowlands: Well, is there something on STAR that you got a bill for that makes sense?

Mr. Poole: Again, I'm sure we could find that information but as the Code goes on, buildings are becoming more and more efficient. So . . .

Mr. Hurd: And a lot of the stuff prior to this, well as we know and try to encourage people, the first thing we're trying to encourage people to do is to reduce how much they're using in the first place. And we push that down and then we say and now let's stick some photovoltaic or something renewable to take the last piece off of that. Trying to get people to come first with renewable energy but maintaining inefficiencies in the building doesn't make any sense either.

Mr. Firestone: Like the 10-story proposed hotel.

Mr. Hurd: See, if we can get this in there, if we can get them to do like room controls and things like that, there's a lot of efficiency we made there.

Mr. Firestone: Yeah.

Mr. Hurd: Keeping in mind also that we're starting, we're making people follow this starting at 5,000 square feet, so some of those smaller 5-, 10-, or 15-thousand square foot buildings aren't going to have a lot of space for . . .

Mr. Poole: And I definitely don't want to do fractions of points.

Mr. Rowlands: Okay.

Mr. Poole: And like I said, right now, we'll leave the number at 10 and if we want to look at some things and adjust the number later, then we'll do that. But rather than debate it here and now . . .

Mr. Firestone: I'll . . .

Mr. Rowlands: Can we put it in your hands to go pick a building that you know you can get a . . .

Mr. Firestone: I'll check with my, I know people who run the Berkley Lab and [inaudible] and I'll check with them on what they think.

Mr. Hurd: Okay, that'd be great. I could also talk to Mary Ellen and see if she can, either through her or Public Works who does . . .

Mr. Poole: Go to the Electric Department. They're the ones that supply the energy.

Mr. Hurd: Yeah, Electric. That's what I meant to get to, just to sort of say what's a commercial building kind of running in terms of kilowatts per square foot and see what we can figure out on that.

Alright, Jeremy, you had mentioned charging stations and I know we've talked about that in some of the residential projects that we've been seeing, but it does make some sense for commercial, especially office or anything with a workforce that you want to provide . . .

Mr. Firestone: Yeah, or anyone that is building a parking lot . . .

Mr. Hurd: Right, parking lot or parking garages. So, there is the option of adding that item of the charging stations. But I guess, one would be capacity for charging stations so that there's a 220-240-volt service available, and the other is actually installing them.

Mr. Firestone: Well they definitely have the capacity to do it. I mean the baseline that's running is like 330 or something.

Mr. Hurd: Right.

Mr. Poole: But if we're going to talk about capacity, then we'll say subpanel in the garage or parking area, that way the panel is there, and they don't have to run power from the electric room to it. All they have to do is jump off of it, if we want to give them 1 point for that.

Mr. Hurd: I think it falls into the same category as the photovoltaic. You get a point basically for being ready to do it and then you get, we'll say, a point for each charging station.

Mr. Poole: I'm thinking more of a percentage of dwelling units or a percentage of . . .

Mr. Hurd: Parking spaces?

Mr. Poole: Occupancy. Parking spaces, well, if we ever reduce our parking space requirements, then . . .

Mr. Hurd: I know, I know, I know.

Mr. Poole: But . . .

Mr. Hurd: Well, and you typically want it for residents, employees . . .

Mr. Poole: Guests.

Mr. Rowlands: Or whatever it is, it still could be tied to how many parking spots.

Mr. Poole: Okay.

Mr. Hurd: I think it's less likely to be for guests or visitors. I think . . .

Mr. Firestone: Why?

Mr. Hurd: Well, one, there's the time factor. Two, there's the knowing that there's a charging station at that place. So, residents and employees are more likely to know that I could purchase a Tesla because they've got a charging station down at the warehouse where I work.

Mr. Firestone: There's really good software, I mean PlugShare, I can tell you where there's charging stations all over the United States.

Mr. Hurd: Okay.

Mr. Firestone: And if I'm trying to figure out how to get somewhere, I can figure it all out in advance.

Mr. Poole: But meanwhile, are we looking at 5% of parking spaces, 2% of parking spaces? What kind of percentage are we looking at?

Mr. Hurd: I almost have to dig into, LEED probably has dug into this.

Mr. Poole: Okay, well we'll look into that and create a new category for that.

Mr. Firestone: Thank you.

Mr. Poole: And again, we'll do one on . . .

Mr. Hurd: One for the subpanel . . .

Mr. Poole: Prep and one for . . .

Mr. Hurd: Because again, well especially for, well some of the recent developments don't count because they're only 3-story residential, so some of them are still under IRC not IBC, but you know basically saying in that garage have a subpanel ready to hook up a 240-line connected there.

Ms. Gray: Isn't that what most of the new projects that are going in have been doing?

Mr. Hurd: They have, yes.

Ms. Gray: Okay, but you're talking about making it a requirement? No, not a requirement, in here as . . .

Mr. Poole: Making it an option.

Mr. Hurd: Giving them a point for it.

Ms. Gray: Okay, got it.

Mr. Poole: And on the actual installed, we should go with a minimum of 2.

Mr. Hurd: Well, so I think we have to start thinking about different uses because if it's multi-family then, yeah, we can say 2 is the starting point and go up from there. Am I right in thinking that like the townhomes they're doing on Benny, are those IRC?

Mr. Poole: Yes.

Mr. Hurd: Okay. They didn't bump it to IBC for that? Because there I've got a single garage for my cars, you know, and the requirement is to put two charging stations in each garage might be too much. But you can't say there's two in this whole collection of townhomes and I get credit for that because, well, no one can use them but the tenant.

Mr. Poole: Well, right now we're looking at the commercial.

Mr. Hurd: Right, and that's all, I wanted to be sure . . .

Mr. Poole: Would it be multi-families?

Mr. Hurd: I wanted to be sure that those units didn't fall into this.

Mr. Poole: Yes, in the residential it would be as a percentage of the dwelling units, maybe.

Mr. Hurd: Yeah.

Mr. Poole: And in the commercial, I think again, it's a percentage of either the dwelling units or parking spaces and, you know, with a minimum of two so that somebody doesn't always hog it.

Mr. Hurd: I'm going to add employees just as another, because you could also say if I have an office building and we've calculated my employee load at 200 people, then I say, okay, here's 10%, here's two charging stations. It's another way to look at it.

Mr. Hurd: Yeah.

Mr. Hurd: Because some commercial uses aren't going to have units or other. Alright, we're back up to speed. Back where we started. Recerts, conservation and efficiency. So, these are just formatting changes except for the documentation of the donation of deconstruction.

Mr. Poole: Right. Did anybody have any feelings on the way we did that on donation of deconstructed materials?

Mr. Rowlands: Going back to the first one here, the reuse existing buildings . . .

Mr. Hurd: Yes?

Mr. Rowlands: Are these points going to make or break whether or not we reuse a building or not? I mean they're going to look at this building and say, hey, let's rehab this or tear the thing down and start over. Or, I can get a point, so let's reuse the building. I can't see that being a factor at all.

Mr. Hurd: No, I agree.

Mr. Rowlands: So, someone that's going to reuse a building, they're getting free points.

Mr. Jadick: I think there's a break point and the necessity to reach out and grab and obtain points, too. It's probably not going to be, hopefully it wouldn't be a deciding factor, you're right. They're either going to reuse or not based on what their . . .

Mr. Hurd: Probably based on other factors.

Mr. Rowlands: And the building itself.

Mr. Hurd: Yeah.

Mr. Rowlands: So, I don't know if this should be here, or reworded somehow.

Mr. Hurd: This is all, we are now all open for discussion. So . . .

Mr. Rowlands: I mean, I'm all for reusing an existing building instead of tearing it down but . . .

Mr. Hurd: I am, too. I think what we're tending to see is that's not, because generally you're replacing a building that is either inefficient in usage or materials or other things that there's no . . .

Mr. Rowlands: Well, take this building here. I mean this thing could be torn down and start over or do you rehab it? And this thing definitely can be rehabbed but is this points system going to make or break that decision?

Mr. Poole: No.

Mr. Rowlands: I don't think it has any bearing at all.

Mr. Poole: Is it going to influence it at all?

Mr. Hurd: Some.

Mr. Poole: Might it influence the percentage?

Mr. Hurd: Are you saying that for those points you would want to see less building reuse or higher points to push this, or . . .

Mr. Rowlands: I'm trying to wrap my head around where any of this would be a factor in whether or not I reuse this building or tear it down. You're talking major things here. This is either going to be torn down or it will be . . .

Mr. Hurd: Right.

Mr. Rowlands: And I can't see a point system having much of a factor.

Mr. Poole: So, are you proposing we delete that category?

Mr. Rowlands: At this point, yes, unless anybody has any ideas about how to make it worthwhile to . . .

Mr. Hurd: I don't at the moment. I mean, I know that the percentages, I'm going to think that I took that somewhat maybe from LEED or such, and it may be, I think the intention was the first level is you're maintaining the shell. The second level is you're maintaining the shell and the floors. The third level is shell, floors, roof, and maybe some interior construction. Certainly that 95% is less likely to be reached for almost any project going on. But the first two would be somewhat feasible. You could think about, oh yeah, and not to make this, but one of our hopes

that the parking zoning, mandatory parking changes do for Main Street is reduce the amount of buildings that they tear down and rebuild bigger because they can effectively reuse that, change the use of that building because they're not having a parking [inaudible]. Because a lot of those are coming down because the only way to make anything work is to get three lots, take them all down, and build another building with parking underneath, so the code kind of drove a different shape.

Mr. Rowlands: So, how would this work on the Green Mansion building? Would he get points for this?

Mr. Hurd: Maybe.

Mr. Poole: Yes, they would theoretically get some points for their reuse of those exterior walls.

Mr. Hurd: Right.

Mr. Rowlands? Right, so they're getting free points because they were never going to tear that down.

Mr. Hurd: They can't.

Mr. Jadick: So, as an example, LEED has a possible 1 point for maintaining 75% existing walls, floors and roof.

Mr. Hurd: Oh, so it's even lower, as it were.

Mr. Rowlands: And this category of resource conservation energy, you have to get X amount of points out of this section?

Mr. Hurd: We haven't said what a minimum is.

Mr. Rowlands: But there will be some minimum for this section and every section?

Mr. Hurd: I think is probably one of the categories where there's going to be, I mean if Tim's math here is right, there's 49 available points. I don't think we're going to get anywhere close to that.

Mr. Poole: No.

Mr. Hurd: Because there's such a wide range of points at this point, it's now about finishes and trade-offs. So, it's like if you get 5 or 10, it's scattered.

Mr. Poole: They could almost fall into some of these points just by making certain choices.

Mr. Hurd: I want to circle back as a thing to come back to perhaps, oh and then we have the interior construction elements, 50% are retained and you get a point. Again, that's, I think to your point, Reid, the decision to do that is not driven here.

Mr. Rowlands: No.

Mr. Poole: Maybe we lose that one and we talk about the other ones.

Mr. Hurd: Or maybe we lose, it sometimes comes back to what's our philosophy here in this group. What are we trying to encourage? Are we trying to encourage reuse of existing buildings because there's embodied energy and all that stuff, or are we looking for better built buildings, which sometimes means you have to take down the other one and put up a new one? Or both? Okay.

Construction waste management, I think, in conversations, it seems like 50% of the waste being diverted was something that was relatively, I shouldn't say easy to achieve, but seems to be . . .

Mr. Poole: Readily achievable.

Mr. Hurd; Readily achievable. And 75%, certainly, would be a stretch beyond that.

Mr. Rowlands: How do you quantify that?

Mr. Jadick: Weight.

Mr. Poole: Tipping weight.

Mr. Rowlands: I know, but you have to say what was diverted. You get a tipping weight on what and when?

Mr. Poole: Well . . .

Mr. Rowlands: What went to the dump and what went to the . . .

Mr. Poole: What went to the dump and what went to the recycling plant.

Mr. Rowlands: Okay.

Mr. Poole: So, single stream.

Mr. Jadick: Did you say 2% earlier based on total parking spaces?

Mr. Poole: Yeah.

Mr. Jadick: You're right on-point with LEED. That's exactly what they have.

Mr. Firestone: What happens is they don't make it?

Mr. Poole: What do you mean?

Mr. Firestone: Let's say they get 2 points and they only end up diverting 40%.

Mr. Poole: Then they have to find points somewhere else.

Mr. Hurd: They don't get their CO. They have to quick, get a new carpet.

Mr. Poole: Or do something else that's not done yet. They have a plan . . .

Mr. Jadick: They have to tear down another existing house . . .

Mr. Poole: And particularly on construction waste, most of that diversion is happening as part of the demo.

Mr. Hurd: Yeah, it's early, for sure.

Mr. Poole: It's a lot harder to make the construction waste management on the new materials than it is on the old stuff because, you know, you break up a bunch of concrete, that really helps your totals.

Mr. Jadick: Yeah, you're not getting a lot of weight on cardboard boxes and packaging.

Mr. Hurd: And little cut ends of . . .

Mr. Jadick: Right.

Mr. Firestone: So, is this by volume or by weight?

Mr. Poole: By weight.

Mr. Hurd: So, keep also in mind that because we haven't been through these sections . . . sorry, you were saying?

Mr. Poole: The volume is not measured.

Mr. Hurd: Yeah. So, because we haven't been through this section yet, we haven't had a chance to look at the criteria and go, I don't understand what that means, this means more information, etc. That's part of what I'm making notes on, things that need to be added to the language, so we say, you know, 50% of the materials, construction materials, by weight are diverted from the waste stream.

Okay, donation of deconstructed materials. Now, who is valuing the . . .

Mr. Poole: The charitable organization is going to give you a receipt. They typically do that for all donations. They tell you how much they feel it's worth.

Mr. Hurd: Okay.

Mr. Rowlands: Do they tell you how much or do you just say it's worth this much and they sign it?

Mr. Poole: Whenever I've donated, they've been real flexible but they pretty much set a value and said does that work for you?

Mr. Hurd: Okay. Because I know Goodwill just gives you a blank receipt.

Mr. Firestone: Yeah.

Mr. Hurd: Put your own number in, whatever you . . .

Mr. Rowlands: My bet is everybody gets 5 points out of this one.

Mr. Hurd: Well, let's, 5, 10, 15, $21 thousand of donated materials.

Mr. Poole: Again, that's a lot of kitchen cabinets.

Mr. Hurd: Yeah, it is.

Mr. Rowlands: And it's a lot of work to take them out slowly and put them somewhere and take them to wherever, as opposed to just ripping them out and . . .

Mr. Poole: And that's why I said, you donate anything, you get a point. And after that, you know, you have to get to 5,000 until you get your next point.

Mr. Jadick: No, I think it's [inaudible].

Mr. Hurd: Yeah, I think so. Materials reuse. Clearly, I think for this section especially, we're going to find a lot of answers in the LEED language if we have any questions.

Alright, recycled content and materials. Tim has done a wholesale revision. I shouldn't say wholesale but has gone through and I think put down some numbers that are a good starting point for here.

Mr. Poole: And everything that's bolded is the new language.

Mr. Hurd: Yeah.

Mr. Poole: And it's just quantifying, and it allowed for architects, in general, trying to put some sort of signature or highlighted area or element in most buildings, whether it's a feature wall or a feature something that sort of gives the building a little bit of a style or identify. And the reduced percentages on that reflect that. You know, if you're going to have some specialty flooring, some sort of specialty floor and decking might be part of that, but that's a reduced amount. Siding, again, allows for a featured area but not much. Roofing is the same way. Acoustic ceiling tiles, it has to be all the acoustic ceiling tiles but meanwhile it has to include 50% of all ceilings, so they don't have a bunch of drywall ceilings and meanwhile they have one room with acoustic ceiling tiles and they say, look, isn't this great?

Mr. Hurd: Right.

Mr. Poole: So, I put some numbers on that. Structural, there could be some non-recycled material involved. Wall insulation, I just used cavity insulation because I'm not aware of many continuous insulation products that are of recycled materials.

Mr. Rowlands: Not really.

Mr. Hurd: Yeah, we couldn't think of any.

Mr. Poole: It's pretty much foam, and that's not recycled.

Mr. Hurd: Foam, Rockwool, and I'm not sure what else we're doing for continuous but, yeah, there's not . . .

Mr. Rowlands: Actually, fiber board is coming on strong.

Mr. Hurd: Okay, so there is starting to be some.

Mr. Rowlands: The level I deal in, it's Gutex and it's Celotex and it's all imported from Europe but there is a Massachusetts that's sinking millions to produce wood fiber cheaper than EPS.

Mr. Hurd: Wow.

Mr. Rowlands: Yeah, it's going to be a game-changer when he gets it built.

Mr. Poole: Is it recycled?

Mr. Rowlands: I don't think it is.

Mr. Poole: Well, it's not applicable.

Mr. Hurd: So close.

Mr. Rowlands: It's scrap wood chips though. Anyway, it's coming. It's a game-changer when it comes.

Mr. Hurd: The one thing I'll say here is that I think we need to relook at the points here because the points column originally was based on percentage of materials. So, if you did 10% of your flooring recycled, you got a point. If you did 20%, you got 2. We're now saying at a minimum, 75% of your flooring is recycled.

Mr. Poole: Yeah, but this is calculated as a percentage of the cost of the materials for the recycled content.

Mr. Hurd: Right, but if 75% of my flooring is required to be recycled content, it's probably going to be over 20% of my cost.

Mr. Poole: No, I'm talking about 20% of the cost of the floor, 20% of the flooring material is recycled.

Mr. Firestone: How does that relate, then, to the minimum . . .

Mr. Hurd: Oh, so 75% of the . . .

Mr. Poole: So, 75% of the flooring has to be 20% recycled to get 2 points.

Ms. Gray: Too many percentages.

Mr. Poole: Again, it tells you the recycled content when, percent recycled content . . .

Mr. Hurd: Oh, so we're . . .

Mr. Poole: Of the material you're using.

Mr. Rowlands: It needs to be worded . . .

Mr. Hurd: Then we're not into cost at that point, we're into content?

Mr. Rowlands: Yeah.

Mr. Poole: Okay, do you want to reword that to percentage of the content or do we want to look at this some more?

Mr. Hurd: Maybe we'll look at this some more to see if there's, yeah, because I'm not sure whether we should just say if they meet this, if they use a recycled content material for 75% of the floors, do we just give them 2 points? Or do we have a baseline for, or a threshold for, what kind of recycled content material they used? You know what I'm saying?

Mr. Poole: I'm saying we make it simpler and make it 1 point. We have a lot of points in this category.

Mr. Hurd: We do. This is also true.

Mr. Jadick: So, LEED asked that exact same question and they have two options. One is the simpler one and one is the one that is more detailed and preferable products. So, I'm just saying that that might be something that . . .

Mr. Hurd: Can you read their language because I'm not . . .

Mr. Jadick: Use building component material that meets one or more of the criteria below. A material must make up 90% of the component by weight or volume, except as noted. A single component that meets option 1 and option 2 can earn points for each option. Sorry, this one here, I might have been looking at the right area.

Mr. Rowlands: But they're going on material, not cost.

Mr. Jadick: Environmentally preferable products is the and/or option 2, use products that meet one or more of the following criteria. At least 90% of each compliant building component by weight or volume must meet one of the requirements below. A single component that meets more than one criteria does not earn additional credit. And then there's way too many bullets points.

Mr. Hurd: Okay, so it may . . .

Mr. Jadick: But it might be worth digging into a little bit more.

Mr. Hurd: Alright. But I will say that I like the minimums and the boundaries you've drawn around it. I think that makes a lot of sense. So, in terms of when we count decking, you know, 90% of the decking makes sense, all the sheathing make sense. All those make sense and I'm okay with those.

Mr. Jadick: I am, too.

Mr. Hurd: Okay. So, it's just now sort of a matter of how do we focus the criteria using those, are we talking volume, cost, whatever, to get a point. And if it seems to make sense, you know, make it a single point thing. Say 90% of your flooring is at least 10% recycled content and, you know . . .

Mr. Poole: You've got your checkmark, move on.

Mr. Hurd: Just move on.

Mr. Poole: Simple and easy to, there's got to be some easy points in here.

Mr. Hurd: Yeah.

Mr. Poole: Not that they're necessarily easy or cheap, but they're easy to figure out where to get.

Mr. Hurd: Absolutely. Regional materials. That's, and this is red just because we have to figure out if that's the criteria we want to use?

Mr. Poole: Yes.

Mr. Hurd: Okay.

Mr. Poole: Yeah, the criteria is, again, really vague and I'd like to see something a little bit more specific.

Mr. Rowlands: Yeah, what is regional material? Five hundred miles?

Mr. Poole: Yes. At least it was in LEED.

Mr. Rowlands: I mean that's where I got it from.

Mr. Poole: The current LEED code is 500 miles.

Mr. Rowlands: But it doesn't say anything here.

Mr. Hurd: No, it doesn't. So, we have to expand those things. Okay. Did you do some of this, Tim, or is that . . .

Mr. Poole: What?

Mr. Hurd: The percentages and points. Was that you?

Mr. Poole: I think the percentages were there. I assigned the points.

Mr. Hurd: So, I'm pretty sure I probably took those percentages from LEED or something like that in terms of what's reasonable to get in terms of regional. What's reasonable in terms of rapidly renewable or certified wood kind of things.

Okay, optimal value engineering framing techniques.

Mr. Rowlands: Do you see mostly advanced framing or regular framing?

Mr. Poole: What we see is pre-built walls or factory-built walls that are shipped to site. Which, again, is very efficient framing because they'll literally waste one inch of that 2x4.

Mr. Hurd: Seriously, yeah.

Mr. Rowlands: But you're seeing pre-made walls come here?

Mr. Poole: Yes.

Mr. Rowlands: Are you?

Mr. Poole: Yes.

Mr. Hurd: Well, it's a timing factor, too.

Mr. Rowlands: No, it's all good.

Mr. Hurd: And a site access issue and a . . .

Mr. Poole: Schedule, lay down area, all that stuff.

Mr. Rowlands: So, if you're seeing it, why are we giving points for it? It's like . . .

Mr. Poole: Because it's good for the environment. Again, just because we see it doesn't mean that there's not an advantage to it.

Mr. Rowlands: No, I understand. But if they're already going to do it . . .

Mr. Poole: We see recycled content, but we're going to give them points for it.

Mr. Rowlands: If they're already doing it, why give them a point? If it's a trend and they're all doing it . . .

Mr. Poole: It may help them make that decision . . .

Mr. Rowlands: To go that route?

Mr. Poole: To go that route. Again, they have to get points somewhere and they're like, well geez, we were trying to toss the ball whether we're going to stick build onsite or we're going to get . . .

Mr. Rowlands: Right.

Mr. Poole: And, hey look, we can get 2 points there and they're the 2 points we're missing.

Mr. Hurd: Yeah. I have a feeling that this category especially is going to be a lot of 1- and 2-point items from which we're going to have to pick a smaller number as a minimum. Engineering lumber. The main change here is the criteria. We're sort of saying a 6-inch nominal width as the breakpoint between solid lumber and engineered lumber. And I think that's, that makes some sense because, again, it might push someone into using a more

efficient lumber. You know, 2x12s are a little more resource-intensive sort of thing. The same thing for the structural insulated panels. We're now saying we have criteria that 75% of the wall area, just to help cut down on like if they have a party wall or if they have other things going on.

Water efficient landscaping. I'm still, I know I wrote this out, but I'm sort of uncertain about either saying no irrigation required or providing plants and reduced irrigation. It's almost in conflict. It's like we either say don't provide irrigation, which you get credits for, or . . . it's almost like you say if there's no irrigation, it's 2 points. If it's a reduced irrigation because it's native plants, maybe it needs a different point. Am I making sense?

Mr. Poole: It still gives them a . . .

Mr. Hurd: No?

Mr. Poole: It gives them an ability to have an area that does get irrigated but then most of the site doesn't.

Mr. Hurd: I guess. Okay.

Mr. Rowlands: And what does no irrigation required, I mean I got landscape beds I put out and I didn't irrigate them. So, do I get a point because I didn't irrigate.

Mr. Hurd: Yeah.

Mr. Jadick: Are they still alive?

Mr. Rowlands: Well that's another question.

Mr. Poole: As long as the plants that you put in, because guess what, we have a landscape surety. If the plants die, you replace them.

Mr. Rowlands: But you could stand out there with a garden hose and feed them all the time and still get your 1 point because you didn't spend the money to irrigate.

Mr. Hurd: Well, no, you'd get . . . oh, right. I see what you're saying.

Mr. Rowlands: I mean I'm not looking deep into irrigation, but I've never seen one that says don't spend irrigation money and you'll get a point.

Mr. Poole: Do you know how much it costs to pay that person to be out there watering the plants every day?

Mr. Rowlands: I got to get my building built. If they felt that way, they'd be building Passive House all the way. They don't think that way.

Mr. Poole: That's a user cost.

Mr. Rowlands: That's right.

Mr. Hurd: Yeah. Irrigation design using onsite or reclaimed water. That's a good thing. Using gray water. And then not using potable water and such for cooling towers. Okay.

Mr. Rowlands: One comment on the gray water system.

Mr. Hurd: Yeah?

Mr. Rowlands: You're only getting 2 points? Doesn't it cost a whole lot to put a gray water system in?

Mr. Poole: But it's also really limited on the fixtures you can put on it.

Mr. Hurd: Yeah, it is. That's true.

Mr. Poole: So, there's questionable amount of benefit.

Mr. Rowlands: So, is nobody ever going to do this one?

Mr. Poole: They could choose to do it and we'll give them points for it. And there is an environmental benefit.

Mr. Rowlands: That's true.

Mr. Hurd: I almost want to say that those three things are like either/ors. It's like either I'm using a reduced irrigation system or I'm using reclaimed onsite water that I've stored or I'm using gray water. I don't see that they're going to mix these a whole lot. It's sort of like they're going to pick one path and go for it.

Mr. Poole: Right. Or they're going to pick a path where they're going to irrigate the heck out of it and they'll get their points elsewhere. But the gray water and the recycled is a lot less likely.

Mr. Hurd: Yeah. So, it's in some ways it's like, hey, put in a cistern and then path off that and be done, for your storm system. Alright . . .

Mr. Jadick: I'm sorry, what is IEQ?

Mr. Hurd: Indoor Environmental Quality. So, each category . . .

Mr. Jadick: Oh, it's a change in category.

Mr. Hurd: Is also color-coded because we don't have enough colors. Tim has gone for legibility and I appreciate it because sometimes it's hard to tell where you are.

Mr. Poole: Yeah. We've got different categories that repeat on the checklist, so we'll get to that on the next page.

Mr. Hurd: So, we have outdoor air delivery monitoring, which is basically using CO_2 monitors to control the amount of outside air coming in, we have increased ventilation to improve air quality, and spot ventilation, spot exhaust I should say, construction indoor air quality . . .

Mr. Poole: And nobody does it during construction. It's all about flushing the building out after everybody is done.

Mr. Hurd: Okay, that's fine.

Mr. Rowlands: I think you're giving some points away in this painting.

Mr. Jadick: In which one?

Mr. Poole: Paintings and coatings?

Mr. Rowlands: If you use low VOC paint, you get a point.

Mr. Poole: Well, let's start with how I was going to delete the part about low-emitting materials . . .

Mr. Hurd: Basically, by combining categories?

Mr. Poole: Yeah.

Mr. Hurd: That's fine. We're just going to have, we have 1, 2, 3, 4, 5, 6 . . .

Mr. Poole: Certainly, the easiest one to get on those is paints and coatings.

Mr. Hurd: Yeah . . .

Mr. Rowlands: Adhesives and sealants, I think keep that. There are options to buy some pretty high VOC stuff, so that's a challenge. Paints, I think that's a given. Flooring systems . . .

Mr. Poole: Paints, yes. Specialty coatings, not so much.

Mr. Rowlands: What is a specialty coating?

Mr. Hurd: Epoxy paint? Does that count?

Mr. Poole: Yeah.

Mr. Hurd: So, I will often specify epoxy paint on the walls behind toilet fixtures because some code officials will accept that as the non-absorbent wall.

Mr. Rowlands: Oh no, in that specific area, but a massive building isn't being painted in epoxy paint.

Mr. Hurd: So, we may need to adapt this criteria slightly like we did with the recycled content to sort of say 90% of the paint and coatings you put into the building should be a low VOC compliant thing, leaving you with a 10% window for something else.

Mr. Poole: Or, they address those areas in a different way and they'd be 100% to meet the, to get that easy point.

Mr. Hurd: I'm just saying, two different . . .

Mr. Poole: A couple of different perspectives.

Mr. Hurd: Now whether we measure that by cost or area, I don't know.

Mr. Poole: I think that would be area but that's, again, a bit more work.

Mr. Hurd: Because if it's by area, your specialty coatings are going to take up a very small area, typically. So, even 10% might be too generous.

Mr. Poole: So, that's why I'm saying you get it another way. I mean either meet the, either they're all VOC-free or low VOC, or they're not.

Mr. Hurd: Do you want to discuss this more or sit on this and think?

Mr. Rowlands: That's fine.

Mr. Hurd: Okay.

Mr. Rowlands: We're getting back into the energy categories.

Mr. Jadick: Other parts to the building.

Mr. Hurd: Okay, we have individual control of lighting, individual control of thermal systems, and designing to meet a higher level, actually to meet the ASHRAE standard as opposed to sort of . . . the daylight and views, I have to double-check to see because we're got a point, we've got a criteria and an item there for controllable lighting in the daylight zone. And that you only get if you've got 35% of your building in a daylight zone. So, I don't know if people push that whether they, oh, this is 75% of the area, so that's different.

Mr. Poole: Again, I don't mind if they double dip in that. There are a number of areas where they can double dip.

Mr. Hurd: I'm almost sure that this came out of LEED because that's got that feel to it.

Mr. Poole: Yes. It's right out of LEED, the current requirements right out of LEED.

Mr. Hurd: It looks familiar.

Mr. Poole: It sure does.

Ms. Gray: If something already works somewhere, why change it?

Mr. Hurd: Oh no, I am a big proponent of steal from other people who have done the work already. Because they had lots of people talk about that and came to a conclusion that we can debate. Alright, so those, are there any items here that people feel should go away? Are there any that we feel we're missing.

Mr. Firestone: Brownfield development. Where are . . .

Mr. Hurd: Whoa, you're jumping ahead.

Mr. Firestone: Oh, okay. I thought you were . . .

Mr. Hurd: I'm still on orange.

Mr. Rowlands: What did you comment on?

Mr. Hurd: Brownfield. Is there anything in the indoor environmental quality criteria that we are either missing, have too much of, or . . .

Mr. Rowlands: Is there anything about, somewhere else maybe, a level of ERV filter going on anywhere?

Mr. Hurd: I thought it was under . . .

Mr. Rowlands: Twelve instead of a nine or whatever.

Mr. Hurd: I thought we had that under mechanical systems.

Mr. Rowlands: It may be. But it's all indoor air quality.

Mr. Hurd: True. We have recovery energy from a ventilation system to precondition incoming air. We don't have anything about higher levels of filtration.

Mr. Poole: Do we want to come up with a criteria for that?

Mr. Hurd: I do recall when we, we talked about this . . .

Mr. Rowlands: Yeah, we talked about it.

Mr. Hurd: But the challenge is always that this is like the quintessential LEED point where you get the point for putting in the high-efficiency filters that nobody changes so the system runs poorly.

Mr. Poole: And they're expensive so you change them less often.

Mr. Hurd: Right, because they're occupant control versus design.

Mr. Rowlands: I don't know what you do about that.

Mr. Hurd: I don't know either. And that's where LEED breaks down, I think, at times is the occupant control part. But I don't know, maybe, having the capacity to have better air filters is good.

Mr. Rowlands: It may not be worth mentioning. You can put one in in the beginning and then change it out after six months or something else.

Mr. Hurd: Yeah.

Mr. Rowlands: It's not like it's a building envelope thing.

Mr. Hurd: Okay. Alright, site selection and development. This is going to get, so we've got no development on undeveloped land that is within five feet of the 100-year flood. So, that's basically building above, way above . . .

Mr. Rowlands: Can we build that close now?

Mr. Poole: As long as you're above the flood level elevation, you're fine.

Mr. Rowlands: Okay.

Mr. Hurd: Didn't we add an 18-inch buffer at one point?

Ms. Gray: Yeah.

Mr. Hurd: We had flood zone regulation come through Planning a couple of years ago.

Ms. Gray: I think it's 18 inches. I think.

Mr. Rowlands: And now you're talking five feet to get a point.

Mr. Firestone: What if you build on stilts?

Mr. Hurd: So, part of it is also no development of undeveloped land that's within five feet of the flood zone. So, you're keeping that buffer of undeveloped land between the flood zone, flood height . . .

Mr. Rowlands: So, it's an easy point for 99% of what's being built around here.

Mr. Poole: If you've got flood plain on your property, getting that five feet of elevation could be a problem.

Mr. Rowlands: In a commercial . . .

Mr. Hurd: Yeah.

Mr. Firestone: But if you don't, you just get a free point.

Mr. Rowlands: Where do we have that situation?

Mr. Poole: 1501 Casho Mill Road. And they're proposing a new subdivision on it.

Mr. Firestone: I think . . .

Mr. Rowlands: Or how about if you're within . . .

Mr. Firestone: You should lose a point if you . . .

Mr. Hurd: That's one we hadn't even thought of. We should give negative points.

Mr. Firestone: I mean you shouldn't get a point for just general building outside the flood plain.

Mr. Rowlands: Yeah.

Mr. Poole: Well, I think maybe we should look at the criteria a little bit. It's only applicable if there is flood plain on the site.

Mr. Rowlands: Okay, I'll go with that.

Mr. Hurd: Sure.

Mr. Firestone: Yeah, okay, if there's flood plain on the site.

Mr. Poole: If there's flood plain on the site, then this is applicable because they have to stay away from it.

Mr. Rowlands: Right.

Mr. Firestone: Okay. Then you're not giving away . . .

Mr. Hurd: Right, because if I just build, if I rebuild on land that's already ten feet above flood plain . . .

Mr. Firestone: You shouldn't get a point.

Mr. Hurd: I shouldn't get a point, right.

Mr. Rowlands: Does that mean the Green Mansion is in a flood plain zone?

Mr. Poole: No. Is it?

Mr. Rowlands: It sure is. You never saw Main Street flood?

Mr. Poole: Yeah, but that's down near Haines Street.

Mr. Hurd: Is it designated a flood plain?

Mr. Rowlands: No, but it should be.

Mr. Poole: That's stormwater . . .

Mr. Hurd: Yeah, that's a whole different thing.

Mr. Rowlands: Yeah.

Mr. Hurd: Compact building footprint. This is one, I think we talked about this a little bit and I'm still uncertain about it. Lot coverage 10% less than zoning maximum. Because zoning maximum is pretty big. Now, for commercial, you're more likely to be going to the edges of your buildable area. So, the question is sort of is, and this is lot coverage also, so it's building and paving and things . . .

Mr. Firestone: Basically, impervious surfaces.

Mr. Hurd: Impervious surfaces. So, is that something, is 10% of maximum what we want? Does that seem like a reasonable thing?

Mr. Poole: I think it should be much higher because a lot of our commercial zones are allowed to have 100%.

Mr. Hurd: So, we're saying 90% coverage, which is still not a lot.

Mr. Rowlands: And if you say 90% in a commercial, there's nobody going to do that for 1 point, is there?

Mr. Poole: Give up 10%? No.

Mr. Firestone: Yeah.

Mr. Rowlands: Nobody is going to get that point. It's almost like it should be 5 points.

Mr. Poole: Well, let's take it off.

Mr. Hurd: Or we can take it off.

Mr. Jadick: Or increase the percentage and increase the points.

Mr. Rowlands: And maybe 10% is too much. Maybe 5%, I mean commercially their max, they're going to max whatever they can do.

Mr. Firestone: I think we just take it off.

Mr. Hurd: We are a more compact city already, so I mean I'm sure that this is partly for helping to keep like suburban office parks from sprawling all over the place, which is not as much an issue. And that's partly why we're having this conversation, so that we can say is this really a criteria that we're going to run into that . . .

Mr. Rowlands: Yeah, I'm okay with taking it off.

Mr. Poole: Is it going to benefit us at all?

Mr. Hurd: Yeah, okay. Brownfield development. Jeremy?

Mr. Firestone: Do we have brownfields?

Mr. Poole: Yes.

Mr. Firestone: How much, where are they?

Mr. Poole: Technically, the Dickinson site is a brownfield.

Mr. Firestone: The Dickinson site is a brownfield?

Mr. Poole: Yes.

Mr. Hurd: Yeah, because for Rodney they had to remediate.

Mr. Firestone: Why?

Mr. Hurd: There was asbestos in the building.

Mr. Rowlands: And are you lacking in people wanting to develop that?

Mr. Poole: From what I saw on the plans that were submitted, it was classified as a brownfield. That's all I can go by is what the regulations say.

Mr. Rowlands: No, no I don't doubt it is. It's got asbestos or whatever, but my point is, it's a highly desirable area to develop.

Mr. Poole: Right.

Mr. Rowlands: So, you're giving them a point here no matter what. Is there a brownfield area that no one wants to touch and is worth a point?

Mr. Firestone: Yeah.

Mr. Rowlands: I don't think we have those, do we?

Mr. Poole: I think cleaning up brownfields is good.

Mr. Rowlands: Yes . . .

Mr. Poole: Redeveloping and cleaning up brownfields is good.

Mr. Rowlands: But it's going to be done anyway though.

Mr. Poole: Not necessarily.

Mr. Rowlands: Dickinson will be.

Mr. Poole: Dickinson will be but that's . . .

Mr. Rowlands: Do we have a location that might not be. Something that's been bypassed because it's a brownfield?

Ms. Gray: Not in Newark.

Mr. Poole: Maybe down in the southern area off of Bellevue Road or Old Coochs Bridge Road, something like that. There are properties over there that have sat vacant for years.

Mr. Rowlands: I mean if we have it, then okay.

Mr. Hurd: Yeah, I'm with you somewhat on this, Reid. I think we're getting into the area of, I mean this is why we're trying to figure out which of these really make sense in terms of benefit for the City that someone makes this choice over some other choice.

Mr. Rowlands: We'll put it as a nobody wants.

Mr. Hurd: I mean it's one reason that I'm not a big fan of like, or we have to really bump up that connection to alternative transportation one because there's almost nowhere within the denser areas of the City that you don't hit that one. So, it's not going to drive, property selection is not going to drive development.

Mr. Rowlands: Not at all.

Mr. Hurd: It's going to be like, oh, and here comes the bus, okay.

Mr. Firestone: I mean giving 5 points to anybody that's going to redevelop the dorms is a total giveaway.

Mr. Poole: This isn't going to be applicable to that project . . .

Mr. Rowlands: No, not that one. That ship has sailed.

Mr. Poole: Because they've already started the process.

Mr. Firestone: I know but, or a similar project.

Mr. Hurd: But similar projects like that, yeah.

Mr. Firestone: It was just an example. I mean . . .

Mr. Poole: But because there are desirable parcels that there's still expense involved with remediation . . .

Mr. Firestone: Okay, you know, I'm thinking about remodeling my kitchen. When they take up the floor, I may have asbestos.

Mr. Poole: But that doesn't make it a brownfield. There is criteria that has to be met.

Mr. Firestone: I'm just saying that this is part of, asbestos is sort of, to me, it's just sort of part of development versus contaminated sites where you . . .

Mr. Rowlands: I mean to me, they can get their points if it's part of their decision process to do it or not. And I don't know that it is.

Mr. Hurd: Well I think if we go back to the goal of this, which is to reduce the development of greenfield sites, there's very little . . . I'm looking at Tim for this . . . but there's very little greenfield left in Newark.

Mr. Rowlands: Right. The whole thing isn't almost applicable to Newark.

Mr. Hurd: Right. So, it may be that this is something that we don't have to cover because we're not as concerned about people choosing . . . again, in a suburban environment, you sort of say we want you to come and build in where there's already been development rather than build on the outside of town and extend all our infrastructure. And so, for there, 5 points really does make a different. It's like, you know, I don't have to extend sewer, I don't have to extend all that stuff. I'm going to keep you in town. Am I kind of right, Tim, in that there's not much greenfield? Right?

Mr. Poole: There's . . .

Mr. Hurd: I mean there's a few like the senior living place, that's sort of greenfield next to the park there.

Mr. Poole: Yeah, it's previously undeveloped.

Mr. Hurd: But I mean in terms of percentage of things . . .

Mr. Firestone: The golf course.

Mr. Hurd: Oh, the golf course.

Mr. Firestone: That's about it.

Mr. Hurd: Yeah, I'm just thinking within the town, the amount of greenfield, I think, is relatively small.

Mr. Poole: I would agree with that statement.

Mr. Hurd: Alright so . . .

Mr. Jadick: That obviously has a much deeper impact in a more urban setting.

Mr. Firestone: Yeah.

Mr. Hurd: Yeah, I mean New Castle County would care about this.

Mr. Jadick: We have seen the advantage of this along the Christina River on new projects many times, multiple times over the last few years. The Kalmar Nyckel project a few years ago was on a brownfield site, so . . .

Mr. Firestone: Yeah, and the University got its incentives for the Chrysler Plant. I mean there are a whole bunch of other brownfield incentives out there. I'm not sure the City needs to provide them.

Mr. Hurd: Okay. I'm going to strike that one for the moment. Alternative transportation. Do we feel that we have a need to . . .

Mr. Rowlands: I don't see it.

Mr. Poole: So, we're losing that category as well?

Mr. Hurd: Well, not the whole category.

Mr. Rowlands: Maybe.

Mr. Hurd: So, we have . . .

Mr. Poole: The alternative, the public transportation?

Mr. Hurd: Yeah, the public transportation access, I don't know that there isn't anywhere . . .

Mr. Poole: The Millcroft people would disagree.

Mr. Hurd: Okay.

Mr. Poole: Certainly, those greenfield sites that we talked about are a lot more likely to be . . . and if you're going to do a multi-lot subdivision, the likelihood is that this might not be applicable.

Mr. Hurd: So, do we need to focus the criteria on particular types of sites or projects or locations, as opposed to being blanket?

Mr. Poole: Well, I think that we accomplished what everybody's goal was to make it less weighted by reducing it from 6 points to 2. But if that's not enough, what's enough?

Mr. Firestone: Again, in the sort of core, you should just get 2 points for building in the core.

Mr. Hurd: Right. Well, maybe this is . . .

Mr. Firestone: You know . . .

Mr. Hurd: Maybe this is a similar thing to like the flood plain, that there's a requirement of you have to be either it's a greenfield development or its in an area currently not, you can't say it's currently not served because that's the whole point of it. I don't know. Maybe we want to think on this a little bit for the next time. I guess the bigger question is what are we trying to achieve here? And that would be, to my mind, the point is to achieve development in areas served by alternative transportation to reduce car usage. So, how do we make that happen in places that it might not happen otherwise?

Mr. Firestone: I mean this works really well if you've got like a subway system and you're trying to encourage development around the . . .

Mr. Hurd: Around the stations.

Mr. Firestone: Around the stations. But . . .

Mr. Hurd: Do we take the UD bus route out of the criteria? Because they can extend that anywhere they, I mean, they've shown that they'll extend it with new developments.

Mr. Poole: Right, they extended it to The Retreat.

Mr. Hurd: I don't know. I'm not getting a sense of what to do with this. Alright, we'll hold that one for now. Bicycle storage and changing rooms. Everyone loves bicycle storage and changing room.

Mr. Firestone: I think that's a good one.

Mr. Rowlands: That's a good one.

Mr. Hurd: That's a good one, okay.

Mr. Rowlands: It's not something people normally do, and this would encourage them to do it.

Mr. Hurd: Right.

Mr. Jadick: I thought that we had a pretty good discussion on both of those last two, including the transportation access, a few meetings back.

Mr. Hurd: I think we did.

Mr. Jadick: And that's why they're still on here. I'm just a little reluctant to overthink removing that one now.

Mr. Hurd: I hear you. I will go and check the minutes. So, commercial and institutional you have to provide short-term storage, long-term storage, changing rooms. For residential, that's multi-family, long-term storage, and retail is short-term, long-term and changing facility. Alright, doubling the bicycle racks.

Mr. Firestone: That's a pretty easy 2 points. I would just knock it down to 1. A bike rack is . . .

Mr. Hurd: A bike rack is cheap, this is true. Oh, the charging facilities, there we go. [inaudible] 2% of all parking spaces. So, maybe we pull that one out of the other section. Okay, so we'll just do the subpanel provided. Okay. Designated parking . . .

Mr. Firestone: So . . .

Mr. Hurd: Do we want 3 points for that, though?

Mr. Firestone: So, you get points for the green vehicle spot and you get additional points if you put in . . . I don't even . . .

Mr. Hurd: This is why we . . . Tim went through very kindly and started putting points down.

Mr. Firestone: I don't think that we should be giving people points anymore. I mean we shouldn't be benefiting people with green vehicles just like they get a closer parking spot.

Mr. Hurd: That's fine.

Mr. Firestone: But if they actually put in the infrastructure so that people are incentivized to buy green vehicles, then that's good. I don't quite understand what this is doing.

Mr. Hurd: It was straight up LEED. I mean we could drop that. We could drop the green vehicles part and just keep the charging facilities. Does 3 points seem like it would be a good number if they do 2% of the parking? Do we want a scale? If they do 1% they get something. If they do 2% they get something. Or 2% or more?

Mr. Rowlands: I think it's an expensive point so, yeah, I think 3 is okay.

Mr. Firestone: We were talking about a minimum though. I mean if someone has 20 spots . . .

Mr. Hurd: So, a minimum of two?

Mr. Poole: A minimum of two.

Mr. Firestone: Minimum of two.

Mr. Hurd: Then I feel better about giving them 3 points if they're always going to have to put in at least two.

Mr. Poole: And we're losing the green vehicles.

Mr. Hurd: I think so. I kind of agree with Jeremy on that. The closer parking is less of an incentive for buying like a hybrid than it used to be. Site development, protecting the habitat. I don't know if we should say 20% of onsite native plants or 20% of, should 20% of the site remain undisturbed? Is that kind of what we're shooting for here?

Mr. Poole: It says onsite native plants so we're keeping 20% of their landscaping is going to be existing plants.

Mr. Hurd: I'm not sure whether that's area or if that's . . .

Mr. Jadick: Or count?

Mr. Hurd: Yeah, it can't be count.

Mr. Firestone: Or percentage of plants.

Mr. Hurd: And does that mean you don't disturb or that you transplant and move or . . .

Mr. Poole: Retain a minimum of 20%. If we don't . . .

Mr. Hurd: I think the criteria needs some expansion.

Mr. Firestone: It should be a per plant.

Mr. Hurd: Okay.

Mr. Poole: I added the next category.

Mr. Hurd: Okay.

Mr. Poole: After discussion with the Parks and Rec Department and Tom Fruehstorfer in Planning has a certified wildlife habitat, and again, it's got specific requirements. There's a certification that you can get, and I think it's beneficial.

Mr. Rowlands: Is it expensive to do? I mean are there fees to apply?

Mr. Poole: Not particularly. But it does take up a certain amount of your site.

Mr. Rowlands: Oh no, I understand. Although you could do it in your landscaping. It's just a matter of you do it in a certified habitat way.

Mr. Poole: Right. You just have to make plant choices that provide specific food requirements, specific harborage requirements and things like that.

Mr. Rowlands: So, is 3 points too many?

Mr. Poole: I don't think so.

Mr. Rowlands: I don't know.

Mr. Hurd: How does that balance to protecting existing plants and habitat, which is only 1 point at the moment?

Mr. Rowlands: I mean point-wise, I equate cost. If it costs me an arm and a leg to do it, I'm going to get more points for it.

Mr. Poole: Well, the cost there is probably as much on space as anything.

Mr. Hurd: And there are certainly projects that are never going to be able to touch this because there's no habitat. This has to be like the project on Paper Mill, for instance, which backs up to the park. This is ideally lined up for that one. I circled 3 points, but we can come back to see if that, when we have a better sense of how the points are shaking out, we can see if that's . . .

Mr. Rowlands: Yeah, I mean, I'm . . .

Mr. Hurd: At the moment it's kind of an outlier in that section because there really isn't anything over 2 at the moment. No, sorry, charging facilities is 3. So, it's kind of like 3 points feels like the think you give to something that you really want them to do, and is that something we really want them to do?

Planting additional trees . . .

Mr. Poole: That was, the criteria for that was non-specific. Well, actually, it was very specific. One point for every additional tree beyond which was required, and we didn't feel that was enough.

Mr. Hurd: Yeah, because we require a fair number of trees.

Mr. Poole: So, after discussing it with Joe Spadafino, we came to a point of two trees beyond required per acre of the site, which is a pretty good number with a maximum of 5 points.

Mr. Rowlands: Okay.

Mr. Hurd: Sure. Maximize open space, which is going to piggyback things like your habitat or your wildlife habitat ones.

Mr. Poole: Yeah.

Mr. Hurd: Stormwater . . .

Mr. Poole: Stormwater quality control and quantity control, I spoke with Ethan Robinson about that and he's going to help us develop a criteria and a difficulty level for those so that we can assign points appropriately for that. His concern right now is the quality control. Under the current regulations, it is done by quantity control, so he thinks that us putting that in is very beneficial to allow some extra filtering before that gets into the stream.

Mr. Hurd: Yeah, because just holding it and dumping it later doesn't, it's still bad water. Yeah, I agree.

Mr. Poole: Right. So, he's going to help me develop something for that by the next meeting.

Mr. Hurd: And I had a thought that was coming up which is that I've been struggling with how to connect the criteria we're coming up with with the site plan development because site plan development currently says LEED certified is part of that energy efficiency thing. And I'm starting to wonder if this category isn't the one where we can start to codify some of our site plan development criteria that we're looking for in terms of a better site plan development, and this is where we can point people back to, you know, basically expanding their points and criteria to get a better performing site as a way to get the site plan approval. So, just a thought. Because especially if we're hitting stormwater above minimum, that's going to make Stacy really happy.

Mr. Firestone: Then she had better start showing up at the meetings.

Mr. Hurd: Well, you know, we're doing stuff here and she wants to weigh in on this. The, heat islands, always good stuff, and we are at the end with two minutes left.

Ms. Gray: At 5:28, awesome.

Mr. Firestone: Very efficient meeting, Mr. Chair.

Mr. Jadick: I have to say I had my doubts at the beginning.

Mr. Hurd: I'm not going to take any credit for it because I have almost no control over this ship once it sails.

5. **GENERAL PUBLIC COMMENT**

[Secretary's Note: There was no general public comment.]

6. **ITEMS FOR NEXT MEETING**

Mr. Hurd: Alright, so, I would say there's some language adjustment to be done, there's some further research between Tim and I, so probably the next time we get together we'll kind of run through it. But I'm going to try to sit and look at this in sort of a larger scale and think about minimum points per category that seems to make some sense in terms of percentage of . . .

Mr. Firestone: And maximum.

Mr. Hurd: Well, yeah . . .

Mr. Firestone: Yeah, because the other way you can get all your points in one basket.

Mr. Hurd: But you have to get minimums in the various categories.

Mr. Firestone: Yeah, that's true.

Mr. Hurd: But that's partly where I have to start with, too, to say if these are my minimums, how close did I get to 50 just by hitting the minimums and did I give them any room to do anything else?

Mr. Firestone: Right.

Mr. Poole: That's why I was looking at . . .

Mr. Firestone: Yeah, I guess you probably can do it with just minimums.

Mr. Poole: Yeah. Again, if we're looking at 50 points and we require a minimum of 20 from energy, 10 from environmental quality, and 10 from conservation and resource management, then they have 10 that they can choose where to go.

Mr. Hurd: Right.

Mr. Firestone: It's required electives.

Mr. Hurd: Exactly. It's exactly that. It's laying it out in a way that nudges them in the direction we want them to go without it being too . . .

Mr. Firestone: Yep. Okay, I've got a hard stop.

Mr. Hurd: Thank you

Ms. Gray: Alright, very productive meeting.

Mr. Firestone: Yeah, we got a lot more done than the last meeting.

Mr. Poole: Are we going to look at residential?

Mr. Hurd: I think the next time, yeah, we're going to try to open up the residential one.

Mr. Poole: Okay.

Mr. Rowlands: Cool.

There being no further business, the Green Building Code Work Group meeting adjourned at 5:30 p.m.

As transcribed by Michelle Vispi
Planning and Development Department Administrative Professional

Attachments
Exhibit A: Green Building Code Concepts List with Points - Draft